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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,337

12/02/2003

Yoshiki Kato

045237-0124

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01/06/2006

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EXAMINER

LEE, GUNYOUNG T


ART UNIT

PAPER NUMBER

2875

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/725,337	Applicant(s) KATO ET AL. 	
	Examiner Gunyoung T. Lee	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on December 16, 2005 has been entered:
 - Claims 2 and 7 have been amended;
 - Claims 11-13 have been cancelled;
 - Claims 1-10 are still pending in this application, with claims 1, 2, 6 and 7 being independent.

Response to Arguments

2. Applicant's arguments regarding claims 1-10 filed on December 16, 2005 have been fully considered but they are not persuasive.
3. In response to applicant's arguments regarding claims 1-2, 5-7 and 10, the applicant addresses that Lindae et al. (US 4,697,225), which is cited in the rejection of claims 1-10 in the Non-Final Office action dated September 22, 2005, do disclose "a reflector which includes portions that are paraboloid-ellipsoid in shape", but does not disclose that "those portions are formed of a **free-form surface** obtained by **deforming** a reference ellipsoid of revolution." (Remarks, pages 6-8).
4. In regards to the free-form surface, the Merriam-Webster dictionary defines the word "free-form" as "having or being **an asymmetrical shape** or design". It is clear that

the reflector (7) of Lindae et al. includes portions (11-16) which are asymmetrical shape (free-form) surfaces.

5. In regards to the deforming process, the applicant discloses that the deforming process is by "enlarging the reflector horizontally and crushing it vertically" (Specification, page 12, lines 14-18). As addressed in the Non-Final Office action dated September 22, 2005, Lindae et al. show a non-symmetric shaped reflection (7) with long horizontal and short vertical dimensions. It would have been obvious to one of ordinary skill in the art at the time of the invention to use enlarging (stretching) in horizontal direction while crushing (pushing) in vertical (orthogonal) direction to form an asymmetric free-form surface through a simple deformation process which requires a very low manufacturing cost. Further, a process or functional method claim, where the element sets forth a step for reaching a particular result, should comply with the requirements of 35 U.S.C. 112, sixth paragraph (see MPEP § 2181).

6. In response to applicant's argument regarding the claims 2 and 7 (remarks, page 7) that Lindae et al. include additional structure not required by applicant's invention, it must be noted that Lindae et al disclose the invention as claimed. The fact that it discloses additional structure not claimed is irrelevant.

7. In response to applicant's arguments regarding claims 5 and 10, applicant's arguments are based on (a) a negative limitation "the light from the light source is **not** effectively used when a predetermined light distribution pattern for a low beam is

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formed" which is not given any patentable weight because it claims the invention by excluding what the inventor(s) does not invent rather than distinctly and particularly pointing out what the inventor(s) does invent (see MPEP § 2173.05(i) and (b) a functional statement "a luminous intensity-improving reflection surface that increases luminous intensity" which is also not given any patentable weight because it does not direct to structural limitations of an apparatus (see MPEP § 2114).

DETAILED ACTION

8. The claims must be given their broadest reasonable interpretation. See MPEP § 2111.

Claim Objections

9. Claims 5 and 10 are objected to because the claims contain a negative limitation "the light from the light source is **not** effectively used when a predetermined light distribution pattern for a low beam is formed" in lines 6-8 of claims 5 and 10 which renders the claims indefinite because the claims attempt to claim the invention by excluding what the inventor(s) does not invent rather than distinctly and particularly pointing out what the inventor(s) does invent. See MPEP § 2173.05(i).

10. The objections on the claims 5 and 10 are still pending and appropriate correction is required.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. The functional statement that does not direct to structural limitations of an apparatus has not been given any patentable weight (see MPEP § 2114). The functional statements in the claims are not further given any patentable weight.

14. Claims 1-3 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindae et al. (US 4,697,225).

15. In regards to claims 1-3 and 6-8, Lindae et al. disclose a headlamp having:

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- A light source (9);
- A reflector (7) including a reflection surface for reflecting light from the light source (9);
- A projection (condenser) lens (17) that irradiates reflected light from the reflection surface (7) forward;
- Wherein the reflection surface includes a plurality of segments (11-16) (col. 2, lines 31-35) and is formed of a free-form surface obtained by deforming a reference ellipsoid of revolution (col. 1, lines 48-63);
- Wherein the light source (9) is arranged between a first focal point of the reference ellipsoid of revolution and the projection (condenser) lens (17), and closer to the first focal point than to the projection (condenser) lens (17) (col. 2, lines 24-29);
- Wherein segments forming one end (23) and other (24) end portions of a light distribution pattern include a wide area-illuminating reflection surface (13, 14) that makes the one end (23) and the other end (24) portions substantially a rectangular shape;
- Wherein the other end portion (24) is opposite to the one end portion (23) with respect to the center of the light distribution pattern;
- Wherein the reflection surface includes a first continuous segment (either 15 or 16) that forms diffused light at a center portion (25 and 26 respectively) of the light distribution pattern, a second continuous segment (either 11 or 12) that forms spot light (21 and 22 respectively) at the center portion, a third segment

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(13) that forms the one end portion (23), and a fourth segment (14) that forms the other end portion (24).

However, Lindae et al. does not disclose:

- A condenser lens (claims 1, 6);
- The reflection surface which is formed of a free-form surface obtained by stretching the reference ellipsoid of revolution in one direction and pushing down the reference ellipsoid of revolution in other direction perpendicular to the one direction to deform the reference ellipsoid of revolution (claims 3, 8).

16. In regards to the condenser lens (claims 1, 6), Lindae et al. disclose that a project lens is provided as a light distributing means (col. 2, lines 29-31). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a condenser lens for the headlamp of Lindae et al. to provide illumination with increased intensity in order to improve the orientation of the driver on the roadway.

17. In regards to the forming process of the reflection surface with a free-form surface (claims 3, 8), Lindae et al. show a non-symmetric shaped reflection (7) with a long horizontal and short vertical dimensions. It would have been obvious to one of ordinary skill in the art at the time of the invention to use stretching in horizontal direction while pushing in (orthogonal) vertical direction to form a non-symmetric free-form surface through a simple deformation process which requires a very low manufacturing cost.

18. Claims 4-5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindae et al. (US 4,697,225) as applied to claims 1 and 6 above, and further in view of Takatsuji et al. (US 4,972,307).

19. In regards to claims 4-5 and 9-10, Lindae et al. disclose the invention substantially as claimed except for the segments forming the one end and the other end portions further include a diffuse reflection surface.

20. In regards to a diffuse reflection surface on the reflection surface having plural segments, Takatsuji et al. disclose a headlamp for a vehicle having a diffuse reflection surface (Fig. 3, 31, 36) (col. 4, lines 54-59). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the diffuse reflection surface of Takatsuji et al. for the one end (13) and the other end (14) portions of the reflection surface (7) as shown in Lindae et al. to provide the both end portions of the light distribution with a with horizontally diffused light pattern, which provides sufficient illumination to the areas located to the side of a vehicle running road. .

Conclusion

21. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

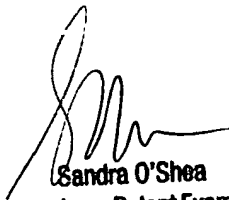
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gunyoung T. Lee whose telephone number is (571) 272-8588. The examiner can normally be reached between 7:30 - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea can be reached at (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GTL
1/2/2006



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